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ABSTRACT

Drawing on data collected during the Title I Demonstration Study, this report describes the extent to which Title I programs "expand and improve" the Title I student's regular curriculum. Background information is provided through an overview and discussion of the Title I legal framework and its effects on service delivery. A comparison of Title I and non-Title I services focuses on language arts instruction delivered at the elementary grade level. Taken into consideration is the amount and nature of Title I instruction. The influence of variables such as group size, type of instructor, degree of individualization, and location of instruction on student achievement, particularly in compensatory education programs, is examined. The basic conclusion reached is that districts can both comply with Federal laws and regulations and still provide services which do not necessarily "expand and improve" the regular curriculum. (EB)

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SOME RECENT FINDINGS ON SUPPLANTING IN TITLE I PROGRAMS

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When Congress enacted Title I, it adopted the following declaration of policy:

> In recognition of the special educational needs of children of low-income families and the impact that concentrations of low-income families have on the ability of local educational agencies to support adequate educational programs, the Congress hereby declares it to be the policy of the United States to provide financial assistance to local educational agencies serving areas with concentrations of children from low-income families to expand and improve their educational programs by various means which contribute particularly to meeting the special educational needs of educationally deprived children.

As can be discerned from this policy, and from the laws and regulations which have emerged to support it, Title I has two main purposes. The first is to provide districts with support which will allow them to offer educational services to students who both need the services and who reside in low-income areas. The second is to provide services which expand the Title I student's regular curriculum.

This paper is concerned with the second of these purposes. Drawing on data collected during the Congressionally mandated Title I Demonstration Study, it describes the extent to which Title I programs do in fact "expand and improve" the services Title I designated students would have received if Title I support were not available. The basic conclusion reached is that districts can both comply with federal laws and regulations and still provide services which do not necessarily "expand and improve" the regular curriculum.

An Overview of the Title I Legal Framework

According to the National Institute of Education (1977), the formal legal framework (i.e., the laws and regulations) surrounding Title I contains 14 major program requirements. Six of these "govern program development and establish procedures that LEAs must follow in designing and implementing Title I programs".[1] These requirements are meant to insure that the services provided by Title I are related to the needs of the children to be served, and that they are carefully planned, implemented and evaluated. Although these requirements determine to some extent whether Title I does "expand and improve" services, four of the eight "funds allocation" provisions[2] are much more influential. These are the comparability, supplement not supplant, excess costs, and equitably provided requirements.

The comparability requirements are school-level requirements. Generally, they require that the level of services provided from state and local funds in every Title I school be comparable, (i.e., roughly equal) to the average level in non-Title I schools. While comparability has

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[1] The six program development requirements include the following: (1) needs assessment; (2) program design; (3) concentration; (4) coordination; (5) program evaluation; and (6) parent involvement. More information on these may be obtained in the NIE reports referenced above.

[2] A total of eight requirements comprise what are called the "funds allocation" requirements. Two of the provisions, the eligibility and targeting program requirement, are concerned with the determination of which schools and students are served by Title I rather than with the services provided by Title I funds. Two other requirements, the general aid provision and the maintenance of effort provision, are district-level requirements with direct implications for funds allocation but broad rather than specific implications for service delivery. The former directs LEAs to serve only "educationally deprived" children with Title I funds and not the student body at large; the latter requires that funding from state and local sources does not decrease when Title I funds are received.

implications for the delivery of services within Title I schools, it is actually determined by comparing Title I and non-Title I schools on the basis of their pupil-to-staff ratios and per pupil expenditures for instructional service. Comparisons are not made of the actual services provided.

The supplement not supplant, the excess cost and the equitably provided provisions are all student-level requirements. The supplement not supplant provision requires that Title I funds are added to, and not used to replace, state and local funds. Because of this requirement, children in Title I programs must receive the level of state and local funds they would have received if Title I did not exist. The excess cost provision requires that Title I funds pay for only the cost of services which go beyond normal instructional expenditures. The equitably provided provision requires that Title I children in Title I schools receive their fair share of specific services in comparison to children in non-Title I schools.

As noted above, districts comply with comparability requirements by properly allocating state and local resources to Title I and non-Title I schools. Districts also meet the supplement not supplant, excess costs and equitably provided provisions by properly allocating resources; however, the emphasis in meeting these requirements shifts to Title I resources and to student-level rather than school-level allocation. Despite the fact that these requirements emphasize funds allocation rather than service delivery, it appears logical to expect that changes in services received by Title I students would result from them. In fact, as specified in their declaration of policy, this appears to be precisely what Congress intended in enacting Title I.

Assuming that these requirements should affect the services students receive, we expect two results. First, we expect that students in Title I and non-Title I schools should receive comparable "regular classroom" services. Second, we expect that the services provided to Title I students should, in fact, "expand and improve their educational programs" beyond what they would have received in the absence of Title I. The remainder of this paper focuses on the extent to which these anticipated effects do occur. As noted earlier, we address this issue on the basis of data collected from twelve school districts participating in the Title I Demonstration study. These data describe the actual classroom services delivered to 398 Title I and 2485 non-Title I students distributed across 12 school districts (Vanecko, Archambault and Ames, 1977).

Given that the service delivery requirements include school-level as well as student-level provisions, we address each of these separately. We focus first on how the comparability requirement effects service delivery at the school-level. We then look at the effects on service delivery at the student-level of the supplement not supplant, excess cost and equitably provided provisions taken as a group. We have chosen to view them as a group rather than individually because they were meant to complement one another in insuring that Title I programs do "expand and improve" the regular curriculum, even though stated separately.

Title I vs. Non-Title I Services

In describing Title I services and in comparing them with those supported through non-federal sources (non-Title I services) we focus our

attention on language arts[3] instruction delivered at the elementary grade level. National-level data indicate that more than 80% of the Title I resources allocated to instruction are spent in the elementary grades, and approximately 60% of this amount is spent on language arts instruction. This is by far the most frequently adopted and heavily funded component of Title I programs, both at the national level and in the Demonstration districts. In several of the Demonstration districts mathematics instruction was also provided, but these programs were quite small in comparison with language arts. Attempting to compare Title I and non-Title I students and schools across this and the myriad of other types of instructional services supported through local and state funds would therefore provide little additional information.[4]

Amount of Title I Instruction

Table 1 provices a district-by-district summary of the amount of regular classroom language arts instruction delivered to students in Title I schools and non-Title I schools. Regular classroom language arts refers to district-or state-supported language arts instruction rather than language arts instruction resulting from federal expenditures. The districts included are those involved in the NIE Title I Demonstration study.

Inspection of the table reveals that in 9 of the 12 districts,

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[3]Defined as listening, library skills, speaking, grammar, reading, creative writing, and penmanship skills, but excluding instruction in English as a second language.

[4]It should also be noted that non-instructional services are not included since less than 5% of Title I expenditures are earmarked for this purpose.

TABLE 1

Average Minutes Per Day Devoted to Regular Classroom Language Arts by District and Type of School

District	Title I Schools [1]	Non-Title I Schools
#1	115	119
#2	86	102
#3	136	147
#4	100	106
#5	106	108
#6	131	115
#7	135	146
#8	103	111
#9	126	126
#10	111	106
#11	123	138
#12	86	110
Average	113.2	119.5

1) Includes both Title 1 and non-Title I students

students in non-Title I schools received more regular classroom language arts instruction than students in Title I schools. The differences range from 16 minutes favoring Title I to 24 minutes favoring non-Title I, and average about 6 minutes in favor of students in non-Title I schools. Less pronounced but similar patterns of results were found for mathematics, other academic instruction (defined as science and social studies combined), and non-academic instruction (including areas such as cultural arts and physical education).

Given the anticipated effects of the Title I legal framework on service delivery, these results may be surprising. What they appear to be saying is that students in Title I schools are not receiving regular classroom services which are comparable, or at least roughly equal to in amount of time, the average level of services received in non-Title I schools. Do these data, therefore, lead to the conclusion that Demonstration districts are in violation of the comparability requirement? We must respond loudly, clearly and unequivocally that they do <u>not</u>. In fact, each of these districts have provided the appropriate staffing and expenditure data to comply with the letter of the comparability requirements. But have they met the spirit of the law, as evidenced by Congressional intent in adopting Title I? Before responding to this question we need to describe in more detail how these results came about. To do so we must include student-level data for regular language arts, and for compensatory language arts as well.

Table 2 presents the average amount of daily instruction in regular classroom and compensatory language arts by district for each of three groups of students: Title I students, non-Title I students in Title I schools, and non-Title I students in non-Title I schools. We can see that Title I students

Table 2

AVERAGE MINUTES PER DAY DEVOTED TO REGULAR AND COMPENSATORY LANGUAGE ARTS BY DISTRICT AND TYPE OF STUDENT

DISTRICT	TITLE I STUDENTS			NON-TITLE I STUDENTS IN TITLE I SCHOOLS			NON-TITLE I STUDENTS IN NON-TITLE I SCHOOLS		
	REGULAR	COMPENSATORY	TOTAL	REGULAR	COMPENSATORY	TOTAL	REGULAR	COMPENSATORY	TOTAL
#1	109	28	137	119	4	123	119	1	120
#2	69	40	109	94	15	109	102	4	106
#3	111	35	146	141	2	143	147	0	147
#4	90	42	132	107	3	110	106	2	108
#5	97	35	132	114	2	116	108	1	109
#6	120	28	148	139	1	140	115	1	116
#7	122	38	160	142	6	148	146	3	149
#8	96	37	133	106	1	107	111	2	113
#9	112	34	146	134	1	135	126	3	129
#10	111	27	138	111	0	111	106	2	108
#11	112	40	152	133	2	135	138	2	140
#12	69	30	99	98	4	102	110	2	112
Average	101.5	34.5	136	119.8	3.4	123.2	119.5	1.9	121.4

were provided with less regular classroom language arts instruction than non-Title I students in the same schools in 11 of the 12 districts. The difference is large—averaging over 18 minutes a day. The data in Table 2 also imply that the school-level differences noted in Table 1 are completely attributable to the student-level differences between Title I and non-Title I students in the same schools. In fact, the cross-district averages for amount of regular classroom language arts received by the two types of non-Title I students (i.e., those in Title I and non-Title I schools) are almost exactly the same (119.8 vs. 119.5).

One more piece of information further clarifies the picture. Looking at the data on amount of compensatory language arts (see Table 2) we can see that Title I students clearly are provided more compensatory language arts instruction (over 30 minutes more on average) than either type of non-Title I student in each of the Demonstration districts. Summing regular and compensatory instructions we see that Title I students are provided more total language arts than their non-Title I counterparts in all but one district.

Taken together, these results suggest that the Title I students' compensatory language arts instruction replaced a portion of the regular language arts instruction delivered to other students in the district. This conclusion is also supported by an analysis of the type of regular classroom instruction reported by classroom teachers to be lost when compensatory services were delivered. The analysis revealed that compensatory services, the large majority of which were accounted for by instruction in language arts, were provided in place of regular (or district-supported) language arts instruction an average of 58% of the time. Instruction in mathematics was lost 14% of the time, and instruction in science or social studies was lost 6% of the time. With a fixed-length school day, some instruction has to

be lost when compensatory instruction is delivered. However, given that Title I services are intended to supplement and not supplant those proviced by the district, it is indeed interesting that Title I services replace basic skills instruction (reading, mathematics, science, and social studies) almost 80% of the time, and replace non-academic areas only 20% of the time.

Nature of Title I Instruction.

Considering only the quantity or amount of instruction, as we have to this point, we might conclude that the major service provided by Title I does not "expand and improve" (i.e., supplement) the regular curriculum. Quantity of instruction alone cannot support this conclusion, however, since Title I services can differ from regular instruction in other ways. For example, they can be provided by more qualified personnel (i.e., content experts rather than general classroom teachers), or they can be provided to smaller groups of students, or they can be delivered on an individualized basis. We turn now to a discussion of the relationship between regular and compensatory language arts and some of these other indicators of instructional intensity or quality.

Table 3 presents data on the size of the instructional group[5] in which Title I and non-Title I students (at this point we have pooled the two non-Title I groups) received regular language arts instruction and in which Title I students received compensatory language arts instruction.

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[5]Group size refers to the size of the group in which instruction was delivered. Four categories of group size are discussed: individual -- instruction delivered to the student alone; small -- instruction takes place in a group of two to five students; medium -- instruction takes place in a group of six to 20 students; large -- instruction takes place in groups of more than 20 students, including whole classes.

TABLE 3

PERCENTAGE[1] OF TIME REGULAR AND COMPENSATORY LANGUAGE ARTS INSTRUCTION WAS DELIVERED IN VARIOUS SIZED GROUPS BY DISTRICT AND STUDENT TYPE

DISTRICT	PERCENTAGE OF REGULAR LANGUAGE ARTS TIME SPENT IN VARIOUS SIZE GROUPS[2]						PERCENTAGE OF COMPENSATORY LANGUAGE ARTS TIME SPENT IN VARIOUS SIZE GROUPS[2]		
	TITLE I			NON-TITLE I			TITLE I		
	INDIVIDUAL	SMALL	MEDIUM	INDIVIDUAL	SMALL	MEDIUM	INDIVIDUAL	SMALL	MEDIUM
#1	22	13	30	13	9	27	7	30	62
#2	42	16	28	16	18	37	36	36	26
#3	12	19	15	9	5	33	25	46	16
#4	13	17	46	12	13	47	7	47	44
#5	13	16	39	16	7	35	16	51	34
#6	7	9	34	9	5	28	3	38	59
#7	7	11	35	7	5	38	6	26	63
#8	13	16	19	19	9	19	7	90	3
#9	8	4	43	5	2	18	20	80	0
#10	18	25	39	14	16	35	10	73	16
#11	8	7	48	9	6	39	5	50	45
#12	19	13	10	26	8	29	7	61	26

[1] Percentage rather than minutes of instruction is presented to allow cross-district comparisons to be made.

[2] The percentage of time spent in large group instruction is not included. It may be calculated by summing the percentage of time spent in individual, small, and medium group instruction, and subtracting from 100.

Looking first at regular language arts instruction, it can be seen that for both Title I and non-Title I students, the large majority of such instruction was delivered in medium and large groups. In fact in only one district was more than 50% of regular language arts instruction for either Title I or non-Title I students delivered in an individual or small-group format.

On the other hand, the data on compensatory instruction received by Title I students reveal that in nine of the 12 districts more than 50% of such instruction was delivered in an individual or small-group format. In addition, appreciably less of the compensatory than the regular language arts instruction was offered in large groups. Further, although not specified in the Table, the large majority of this small group instruction was delivered using a "pull-out" rather mainstream model as used for regular instruction. These data indicate, therefore, that compensatory language arts instruction delivered to Title I students does in fact differ from regular language arts instruction in terms of group size, and in terms of location of instruction as well.

When the type of instructor providing services is considered, differences between regular and compensatory language arts instruction are again found.[6] As can be seen in Table 4, the large proportion of regular language arts instruction was delivered by classroom teachers. In fact, across all

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[6] Type of instructor refers to the type of adult (if any) directly involved in an activity. Four types of instructor categories are discussed: classroom teacher—defined as a homeroom or other classroom teacher; instructional specialist—defined as someone designated by the district as a specialist in a particular content area and not a regular classroom teacher; paraprofessional—defined as a student teacher, paid aide or assistant, parent volunteer, other adult, or older student; no adult involved directly—defined to include instances in which the designated student is engaged in a self-directed activity with no direct adult involvement.

TABLE 4

PERCENTAGE OF TIME REGULAR AND COMPENSATORY LANGUAGE ARTS INSTRUCTION WAS DELIVERED BY VARIOUS TYPES OF INSTRUCTORS[1] BY DISTRICT AND STUDENT TYPE

DISTRICT	PERCENTAGE OF REGULAR LANGUAGE ARTS TIME SPENT WITH VARIOUS TYPES OF INSTRUCTORS						PERCENTAGE OF COMPENSATORY LANGUAGE ARTS TIME SPENT WITH VARIOUS TYPES OF INSTRUCTORS		
	TITLE I			NON-TITLE I			TITLE I		
	CLASSROOM TEACHER	INSTRUCTIONAL SPECIALIST	PARA-PROFESSIONAL	CLASSROOM TEACHER	INSTRUCTIONAL SPECIALIST	PARA-PROFESSIONAL	CLASSROOM TEACHER	INSTRUCTIONAL SPECIALIST	PARA-PROFESSIONAL
#1	62	0	2	72	1	3	0	83	10
#2	51	1	13	55	1	15	19	32	34
#3	86	1	1	80	2	3	12	62	22
#4	78	2	2	72	2	4	4	88	5
#5	74	6	5	72	4	3	0	87	10
#6	81	1	3	78	0	2	2	94	3
#7	84	1	3	80	2	1	6	86	6
#8	75	2	4	67	2	3	1	22	77
#9	85	1	3	84	3	2	0	11	88
#10	62	2	12	69	1	9	5	82	14
#11	78	2	2	71	2	3	2	81	13
#12	54	0	0	57	4	4	7	67	0

[1] Percentage rather than minutes of instruction is presented to allow cross-district comparisons to be made.

[2] The percentage of time spent with no adult involved directly is not included in this table. It may be calculated by summing the percentage of instruction delivered by classroom teacher, paraprofessionals, and instructional specialists and subtracting from 100.

districts more than 70% of the regular language arts instruction of Title I and non-Title I students was delivered by classroom teachers. Further, in no instance were there appreciable within-district differences between Title I and non-Title I students.

The data for compensatory language arts are quite different. As can be seen in Table 4, in ten of the 12 districts less than 10% of the compensatory language arts instruction was delivered by classroom teachers. In nine of the districts more than 60% of this type of instruction was delivered by instructional specialists. Moreover, other data obtained from the Demonstration districts reveal that these specialists generally have a higher level of educational attainment than the classroom teachers who provide regular instruction. Therefore, with regard to type of instructor, regular classroom and compensatory language arts instruction delivered to Title I students must be viewed as different.

With regard to the extent of individualization in Title I and non-Title I instructional programs, the general picture conveyed by the Demonstration Study results is that Title I supported language arts is consistently more individualized than regular language arts instruction. This individualization is characterized partly by larger amounts of actual instruction taking place in small groups, as already described. In most, but not all, districts this is accompanied by performance objectives stated at the individual student level, these often being based on diagnostic test results, and by the availability of materials keyed to these objectives. These materials are also generally based on both content and mastery. In compensatory instruction, different classroom materials are usually used for different individuals but progress is not necessarily recorded more frequently than in regular instruction.

IMPLICATIONS OF THE FINDINGS FOR STUDENT ACHIEVEMENT

As we have seen, Title I and regular language arts instruction in the Demonstration districts are substantially different in several ways. Title I instruction is delivered in smaller classes and by specialists, who generally have a higher level of educational attainment than regular classroom teachers. Further, Title I instruction generally takes place outside the regular classroom in specially equipped labs and resource rooms and is more individualized. Finally, Title I students receive compensatory language arts instruction in place of other basic skills instruction, especially regular language arts. That is, regular language arts tends to be replaced when compensatory language arts is delivered, and, as a result, the total amount of language arts instruction delivered to Title I students exceeds that delivered to non-Title I students only slightly.

School districts adopting this general strategy must at least implicity assume that the characteristics which distinguish Title I "expand and improve" the regular district offerings, as called for by law and regulations. They must also assume, again at least implicity, that characteristics or variables such as group size, type of instructor, degree of individualization, and location of instruction define "expansion and improvement", rather than the variable amount of instruction. The question which naturally arises is: Which of these variables is (are) most likely to positively effect student achievement? The data obtained through the Demonstration Study do not address this issue, and so we turn to the literature for a discussion of the relative effects of these variables.

Individualization

During the past decade a degree of educational folk wisdom has emerged regarding the efficacy of individualized instruction, particularly in compensatory education programs. This appears to have occurred despite disagreement on the definition of individualization and inconsistent results from research studies on the topic. Early support for the effectiveness of individualization was found in evaluations of successful compensatory education programs, particularly the reviews of exemplary Title I projects conducted by Wargo et al., (1971, 1972) and the review of compensatory program evaluations conducted by the U. S. Office of Education (NSPRA Report, 1973). While the definition of individualization reported in these reviews varied to some degree, certain characteristics were common to both. Among these were: clearly written and/or stated academic objectives; attention to individual needs, including individual diagnoses and prescription; and structured sequential instruction. Studies by a number of other researchers have found somewhat comparable characteristics to be associated with effective instruction (Mac Donald, 1976; Soar, 1973; Stallings and Kaskowitz, 1975; and Brophy and Evertson, 1974).

In contrast to these studies, Cooley and Leinhart (1978) have recently reported that individualization does not have uniformly positive effects on achievement. They conclude the following:

> "There was no clear evidence regarding the superiority of individualized instruction for compensatory education. Although some of the measures that reflect various aspects of individualization did show some effect in one or more of the samples studied, there was no consistent pattern across the four samples" (p. 6).[7]

[7] The four samples refer to separate samples of first and third grade classrooms measured on reading and mathematics, respectively.

Frechtling and Hammond (1978) reach this same conclusion in their analysis and interpretation of the Cooley and Leinhart data.

As indicated by this brief review, research on the efficacy of individualized instruction has produced mixed results. The variety of definitions of individualization may contribute to this state of confusion. Whatever the reason(s), it is impossible to state unequivocally that individualization either does or does not "expand and improve" regular services. As a result, it must be concluded that increased individualization in compensatory language arts will not necessarily guarantee improved performance.

Pull-Out

As noted earlier, compensatory instruction is by-and-large "pull-out" instruction. LEAs apparently feel that they can more easily comply with supplement and supplant regulations if students are removed from their regular classroom for Title I instruction. Despite the managerial attractiveness of this approach, there is some concern about its pedagogical appropriateness. For example, findings from a recent NIE study indicate that pull-out instruction is not necessarily superior to mainstreaming. Frechtling and Hammond, the authors of one report on that study, find "mainstream instruction to be superior in the first grade for both reading and mathematics, pull-out instruction to be superior to third grade mathematics, and no differences in effectiveness of third grade reading" (p. 7). Glass and Smith (1977) are even less sanguine about pull-out. They claim that without some methodological problems in the NIE Study (i.e., ceiling effects on the test used and unit of analysis concerns) pull-out would have been an even less viable alternative. Moreover, given the finding that the greater the proportion of time the pupil spends in pull-out reading or mathematics

the lower his achievement (Coulson et al., 1977), as well as the findings from a variety of other studies reviewed, Glass and Smith conclude that pull-out is actually academically harmful. They also argue that pull-out instruction is a means of de-facto segregation and therefore unacceptable on social and legal as well as academic grounds. Therefore, pull-out instruction, even though it may increase student contact with teachers, does not appear to be a primary factor in increasing student achievement.

Type of Instructor

Anderson et al., (1978) conclude that teacher background (a composite of teaching experiences, academic degree and training of teachers) has little in-common relationship to achievement. In fact, this variable accounted for less than four percent of the variance in achievement in each of the two subjects and grade levels tested in their research. Bloom (1976) also concludes that the variance accounted for by teacher variables is rarely more than five percent. Glass and Smith (1977) conclude the following: "These data seem to indicate that remedial specialists are distinguished neither by their obviously superior training nor by the pay they receive for their services. The most cynical assessment of their role and contribution would be that remedial specialist teachers are merely rechristened regular classroom teachers the motive for so designating them being the need to comply with certain regulations".

The Demonstration Study data briefly discussed earlier both refute and support this claim by Glass and Smith. In several of the Demonstration districts specialists were considerably more experienced and had substantially higher levels of education than did classroom teachers. In other sites, specialists had less experience than classroom teachers and

about the same educational level. Despite these differences, however, the Demonstration Study data reveal nothing about the relationship between these characteristics and student behavior[8]. Taken together, the available evidence appears to indicate that the presence of Title I instructional specialists does not necessarily expand and improve the regular instructional program.

Group Size

Although professional organizations have maintained for some time that reduced class or group size will lead to higher student achievement, there has been little research evidence to support this claim until recently. Bloom (1976) offers the following analysis of the research on the effects of classroom variables, including class size:

> "Similarly, many studies have been done on the characteristics of the classroom or school including such variables as number of students, equipment and facilities available, expenditures per student, and school organization and administration. Here again the relation between student achievement and selected variables from the above categories yield correlations which account for no more than five percent of the achievement variation as reported in the Coleman (1966a) and Plowden (1976) studies or in the IEA studies. The major exceptions to these results are found where the class or school variable reflects selectivity of students with regard to general intelligence socio-economic status, or plans for further education." (1976, pp. 110-111)

Conclusions similar to these have been reached by Stephens (1967) and Jamison, Suppes and Wells (1974).

Glass (1979), however, reports more recent findings that as class size decreases, student achievement climbs, particularly when size approaches 15 pupils. The results of Glass' reanalysis of data collected from a number

[8] Student achievement data were not collected during the Demonstration Study.

of different studies also indicate that the relationship seems slightly stronger at the secondary grades than the elementary grades, but does not differ appreciably across different school subjects, levels of pupil IQ, or across several other obvious demographic features of classrooms.[9] Given the scope of this research, it is quite possible that Glass' conclusion will stand. If so, group size would emerge as the only characteristic of Title I reviewed here to show any appreciable positive relationship to student achievement. The findings of Glass must be carefully scrutinized before this important conclusion can be drawn.

In our discussion of the effects of the Title I regulations on the delivery of compensatory services, we noted that students receiving compensatory language arts instruction lost regular language arts instruction in the process. In fact, the total amount of language arts received by Title I students was found to be approximately equivalent to that of their non-Title I peers. The question we raised at that time was whether this loss in amount of service was offset by changes in the way in which the compensatory instruction was delivered. If so, it could be argued that Title I programs do "expand and improve", or supplement and not supplant, regular instructional programs; if not, as appears to be the case from the review of Title I characteristics presented to this point, questions could be raised about how effective Title I is in realizing the general policy goals

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[9] It should be noted that the Glass research focuses on class or group size and not group composition. Eposito's (1973) review of ability group practices indicates that "homogeneous ability grouping as currently practiced shows no consistent positive value for helping students...to achieve more scholastically or to experience more effective learning conditions." (p. 171). He also concludes that "the findings regarding the impact of homogeneous ability grouping on affective development are essentially unfavorable", that homogeneous ability grouping is a separated educational policy, ostensibly according to students' socio-economic status and, to a lesser but observable degree, according to students' ethnic status."

Congress set for it. Before we reach either of these conclusions, however, we must consider what the literature says about the effects of quantity or amount of instruction.

Quantity of Instruction

Research evidence from a number of quarters points to amount of instruction as the most important in-school determinant of student outcomes. Carroll (1963) in his now classic paper entitled "A Model of School Learning", and Bloom in his Thorndike address "Time and Learning" to the American Psychological Association provide the theoretical groundwork for research supporting this claim. The evidence itself comes from work by Block (1970), Anderson (1973), Arlin (1973), David (1974), Wiley and Harnischfeger (1974, 1977), Good and Beckerman (1978), Brophy and Evertson (1978), Fisher, Filby and Marliave (1977), and Marliave (1978).

Some of these same researchers caution that amount of instruction alone will not produce the desired effects. Bloom (1976), for example, says that the learner must be actively involved or participating in instruction, either overtly or covertly, for the time spent in instruction to be effective. Further, he claims that given all the literature on the effect of school, teacher, and student variables, participation is clearly the strongest indicator of instructional effectiveness.

Berliner (1978) and Filby, Marliave and Fisher (1977) in their work on the Beginning Teacher Evaluation Study (BTES) expand on this notion in their discussions of what they call allocated and engaged time. Allocated time refers to the amount of time the students are assigned work in a particular area; engaged time "is that subset of the allocated time when a student appears to be attending to the learning task" (Filby, Marliave, and Fisher,

1977, p. 3). Despite the importance they attach to this distinction, some of their own evidence indicates that allocated and engaged time are both related to achievement and their value as predictors depends on the measure of achievement being used.

CONCLUSION

As with the other characteristics of instruction, some confusion surrounds the results on quantity of instruction. Although it is clear that time devoted to instruction is an important determiner of achievement, it is not yet certain whether allocated time or engaged time is more crucial. Since our conclusions about losses in amounts of regular instruction resulting from the introduction of Title I instruction are based solely on a measure of allocated time, the distinction between allocated and engaged time is important to consider. If allocated time is a better predictor of achievement, it may well be that losses in time spent in regular instruction are not offset by Title I instruction, even if it is more individualized, provided by instructional specialists and delivered to smaller groups in an area separate from the regular classroom. On the other hand, if engaged time is a better predictor, certain interactions of these variables, which alone are not sufficient to increase achievement, may prove to be effective. Additional research on this critically important issue may resolve this conflict.

In the absence of such conclusive evidence, the present data lead us to at least question whether the declaration of policy adopted by Congress is being realized. Stated more directly, these data raise the suspicion

that districts can simultaneously comply with the laws and regulations designed to insure that Title I "expand and improve" the regular program and violate Congressional intent. They also lead to the hypotheses that the losses in instructional time accompanying Title I instruction may partly explain why Title I has not proven more effective.

In our overview of the Title I legal framework we indicated that the comparability, supplement not supplant, excess cost and equitably provided provisions of the Title I legal framework were the most infulential requirements in determining whether Title I "expand(s) or improve(s)" the regular curriculum. The results we have presented in this paper indicate that it is not possible to conclude with confidence either that they do insure that the goal is met, or that they do not. As with so many investigations of complex issue, this one is left with more questions than it set out to answer. We view this as a potentially healthy state of affairs, particularly if raising the issues stimulates others to seek solutions. And given the urgency of these concerns in these days of basic skills instruction, we believe that they will.

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